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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHO, UN C

ART UNIT PAPER NUMBER

2687

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,268

Applicant(s)

NELSON, RODERICK

Examiner

Un C. Cho

Art Unit

2687

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-17 and 21-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date:
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date:
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 12/12/2005 has been placed in record and considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 – 5, 7, 9, 11 – 15, 17, 19, 27 – 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Garceran et al. (US 6,522,888 B1).

Regarding claim 1, Garceran discloses a method of monitoring performance of a wireless system, comprising: transmitting a communication signal from a mobile wireless device to a radio base station, the communication

signal comprising call data; obtaining uplink performance parameters associated with communication signal; obtaining location information of the mobile wireless device by analyzing the communication signal (Garceran, Col. 3, lines 28 – 45); and evaluating the performance of the wireless system using the uplink performance parameters associated with the communication signal received from the mobile wireless device and the location information of the mobile wireless device (Garceran, Col. 3, lines 46 – 67).

Regarding claim 2, Garceran discloses wherein the step of evaluating the performance of the wireless system is performed in real-time (performance is evaluated during a call, Garceran, Col. 3, lines 32 – 45).

Regarding claim 3, Garceran discloses wherein the location information of the mobile wireless device is collected from a plurality of radio base stations (neighboring base stations can also monitor the wireless unit, Garceran, Col. 4, lines 26 – 48).

Regarding claim 4, Garceran discloses wherein the step of obtaining the location information involves analyzing timestamp data (Garceran, Col. 3, lines 15 – 25).

Regarding claim 5, Garceran discloses obtaining the location information involves using a time difference of arrival location processor (Garceran discloses GPS as a way to determine the location of the wireless unit, but Garceran also mentions that triangulation method can be used to determine the location of the wireless unit as well; Garceran, Col. 3, lines 15 – 25 and Col. 14, lines 49 – 59).

Regarding claim 7, Garceran discloses that the time difference of arrival location processor is in the wireless system (Garceran, Col. 14, lines 49 – 59).

Regarding claim 9, Garceran discloses obtaining location information of the wireless device is accomplished using a global positioning system unit in the wireless device (Garceran, Col. 6, lines 31 – 58).

Regarding claim 11, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 12, the claim is interpreted and rejected for the same reason as set forth in claim 2.

Regarding claim 13, the claim is interpreted and rejected for the same reason as set forth in claim 3.

Regarding claim 14, the claim is interpreted and rejected for the same reason as set forth in claim 4.

Regarding claim 15, the claim is interpreted and rejected for the same reason as set forth in claim 5.

Regarding claim 17, the claim is interpreted and rejected for the same reason as set forth in claim 7.

Regarding claim 19, the claim is interpreted and rejected for the same reason as set forth in claim 9.

Regarding claim 27, Garceran discloses a system for monitoring performance of a wireless system, the wireless system including a wireless device transmitting a communication signal to a radio base station, the

communication signal comprising call data produced by the wireless device and including at least one uplink performance parameter, said system comprising: a first receiver located at the radio base station that receives the communication signals and transmits the communication signals to a switch (Garceran, Col. 3, lines 28 – 45); a location measurement unit in the wireless device that determines the location of the wireless device and includes corresponding location data in the communication signals (GPS receiver circuitry; Garceran, Col. 6, lines 31 – 58); and a system analyzer coupled to the switch which evaluates the performance of the wireless system based on the at least one uplink performance parameter and the location of the wireless device (Garceran, Col. 3, lines 46 – 67).

Regarding claim 28, Garceran discloses wherein the location information measurement unit is associated with a time difference of arrival technique (Garceran, Col. 14, lines 49 – 59).

Regarding claim 29, the claim is interpreted and rejected for the same reason as set forth in claim 27.

Regarding claim 30, Garceran discloses locating a geographical area associated with faulty coverage based on the performance evaluation (Garceran, Col. 5, lines 15 – 32 and Col. 11, lines 10 – 36).

Regarding claim 31, Garceran discloses wherein the evaluation is based on mobile-assisted handoff information (Garceran, Col. 10, line 36 through Col. 11, line 9).

Regarding claim 32, Garceran discloses generating an information report concerning signal coverage of a geographical area based on the performance evaluation (entries in a coverage database (Fig. 3B); Garceran, Col. 5, line 33 through Col. 6, line 30).

Regarding claim 33, Garceran discloses adjusting the radio base station based on the performance evaluation (choosing the best candidate to handoff the wireless unit; Garceran, Col. 10, lines 36 through Col. 11, line 9).

Regarding claim 34, the claim is interpreted and rejected for the same reason as set forth in claim 30.

Regarding claim 35, Garceran discloses a method of assessing wireless system performance, comprising: collecting downlink call data associated with a call to a mobile wireless device; collecting uplink call data associated with the call to the mobile wireless device; obtaining location information associated with the mobile wireless device (collecting measurements on the forward link and reverse link and obtaining wireless unit's location information; Garceran, Col. 3, lines 26 – 45); and based on the downlink call data, the uplink call data, and the location information, evaluating system performance (Garceran, Col. 3, lines 46 – 67).

Regarding claim 36, Garceran discloses removing transient effects from the system performance evaluation based on the uplink call data and the location information (Garceran, Col. 8, lines 31 – 48).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 21 – 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran in view of Hawkes et al. (US 5,973,643).

Regarding claim 21, Garceran discloses a system for monitoring performance of a wireless system, said system comprising: a plurality of wireless devices which transmit communication signals to a radio base station (Fig. 7A), the communication signals comprising respective call data and at least one uplink performance parameter; a first receiver located at the radio base station which receives the communication signals and transmits the communication signals to a switch (Garceran, Col. 3, lines 28 – 45); and a system analyzer coupled to the switch which evaluates the performance of the wireless system based on the respective uplink performance parameters and the respective locations of the wireless devices (database (Fig. 2, 52) coupled to MSC (Fig. 2, 58); Garceran, Col. 3, lines 46 – 67).

However, Garceran does not specifically disclose a second receiver located at the radio base station which monitors the communication signals and transmit timestamp data associated with the communication signals to the switch, the timestamp data being associated with respective locations of the wireless

devices. In an analogous art, Hawkes discloses a second receiver located at the radio base station which monitors the communication signals and transmit timestamp data associated with the communication signals to the switch, the timestamp data being associated with respective locations of the wireless devices (Hawkes discloses a base station having multiple antennas and the number of mobile location sensors (MLS) are relative to the number of antennas, thus more than one receivers are present within the base station and the receivers receive communication signals and transmit timestamp data associated with communication signals and location of the wireless devices to the switch; Hawkes, Col. 11, lines 4 – 11 and 52 – 67; Col. 12, line 66 through Col. 13, line 9 and Col. 15, line 38 through Col. 16, line 44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Hawkes to the system of Garceran in order to provide a robust and accurate cellular telephone location system that adapts under varying environmental conditions normally encountered in the cellular frequency bands.

Regarding claim 22, Garceran in view of Hawkes as applied above discloses wherein a time difference of arrival location processor is coupled to the switch and to the system analyzer (mobile location sensors (Fig. 1, 18a, 18b and 18c) are coupled to the switch (Fig. 1, 3) and real-time location processor (Fig. 1, 5); Hawkes, Col. 5, lines 8 – 17).

Regarding claims 23 and 24, the claims are interpreted and rejected for the same reason as set forth in claim 21.

Regarding claim 26, Garceran in view of Hawkes as applied above discloses wherein the second receiver receives location information from global position system units in each of the plurality of wireless devices (Garceran, Col. 6, lines 31 – 58 and Col. 14, lines 49 – 59; Hawkes, Col. 11, lines 4 – 11 and 52 – 67; Col. 12, line 66 through Col. 13, line 9 and Col. 15, line 38 through Col. 16, line 44).

6. Claims 6, 10, 16, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran in view of Kong (US 6,275,186 B1).

Regarding claim 6, Garceran discloses detecting the location of a wireless unit using triangulation (Garceran, Col. 14, lines 49 – 59).

However, Garceran as applied above does not specifically disclose that the time difference of arrival location processor is in the mobile wireless device. In an analogous art, Kong discloses that the time difference of arrival location processor is in the mobile wireless device (TDOA location processor (Fig. 3A, 320) is in the mobile station; Kong, Col. 7, lines 19 – 45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Kong to the system of Garceran in order to provide an accurate MS locating method for continuous positioning whereas the MS measures and determines the TDOA and SIR (Signal-to-Interference Ratio) of each BS channel to efficiently determine the position of the MS in a CDMA communication system synchronized to the GPS.

Regarding claim 10, Garceran in view of Kong as applied above discloses obtaining location information of the mobile station is accomplished using RF finger printing using dispersion characteristics of the communication signal (Kong, Col. 7, lines 28 – 38).

Regarding claim 16, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claims 20 and 25, the claims are interpreted and rejected for the same reason as set forth in claim 10.

Response to Arguments

7. Applicant's arguments with respect to claims 1 – 7, 9 – 17 and 21 – 36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GEORGE ENG
SUPERVISORY PATENT EXAMINER

Un C Cho
Examiner
Art Unit 2687

2/21/06
